

REMARKS/ARGUMENTS

Status Of Application

Claims 1-37 are pending in the application; the status of the claims is as follows:

Claims 14-23 and 30-37 are withdrawn from consideration.

Claim 25 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

Claims 1-10, and 24-27 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Published Application Publication No. US 2002/0164820 A1 to Brown ("Brown").

Claims 1, 3-5, and 13 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,837,115 to Austin et al ("Austin").

Claims 11-13, 28, and 29 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Brown in view of Austin and U.S. Patent No. 6,403,957 to Fodor et al ("Fodor").

The acknowledgement, in the Office Action, of a claim for foreign priority under 35 U.S.C. § 119(a)-(d), and that the certified copy of the priority document has been received, is noted with appreciation.

The indication, in the Office Action, that the Examiner has no objections to the drawings filed on May 27, 2003, is noted with appreciation. Clarification is requested as a Letter to Official Draftsperson was mailed to the Patent and Trademark Office on January 24, 2002 (filed on February 20, 2002).

Claim Amendments

Claims 1 and 24 have been amended to more clearly describe the invention. These changes do not introduce any new matter.

Claims 2, 3, 4 and 5 have been amended to correct for proper antecedent basis with amended claim 1. Claims 26 and 27 have been amended to correct for proper antecedent basis with amended claim 24. These changes are not necessitated by the prior art, are unrelated to the patentability of the invention over the prior art, and do not introduce any new matter.

Claim 25 has been amended to remove the usage of “can be” from the claim as suggested by the Examiner. This change is not necessitated by the prior art, is unrelated to the patentability of the invention over the prior art, and does not introduce any new matter.

35 U.S.C. § 112 Rejection

The rejection of claim 25 under the second paragraph of 35 U.S.C. § 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant(s) regard as the invention, is respectfully traversed based on the following.

The language “can be” has been removed from the claim as suggested by the Examiner.

Accordingly, it is respectfully requested that the rejection of claim 25 under the second paragraph of 35 U.S.C. § 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention, be reconsidered and withdrawn.

35 U.S.C. § 102(e) and (b) Rejections

The rejection of claims 1-10, and 24-27 under 35 U.S.C. § 102(e) as being anticipated by Brown, is respectfully traversed based on the following.

Brown discloses a miniaturized assembly whereby a fluid sample can be divided into a plurality of sample portions. (Abstract). Brown discloses, in Fig. 5, a substrate 134 having a plurality of sample retaining patches 146 formed thereon. The sample retaining patches 146 define sample chambers by absorbency or surface energy or other retentive property. (Para. 131). A patterned layer 150 (which is formed on top plate 148) may also have a plurality of sample retaining patches 154 complementary to and mirroring patches 146. (Para. 132). The volume 166 between the facing surfaces of each complementary pair of patches thus forms a sample chamber, where the affinity of the two opposing patch surfaces to a retained sample is sufficient to support a column of sample between the two patches. (Para. 135). Thus, the samples are either captured on the sample retaining patches 146 or are held between opposing patches 146 and 154 (i.e., patches formed on opposing surfaces of the assembly).

Claim 1 recites, inter alia:

a particle capture unit, including a plurality of projections, disposed on a deflection side of said flow pass for capturing at least a portion of said particles between said plurality of projections;

Thus, while Brown discloses that a sample can be captured on a patch, or between two opposing patches, claim 1 of the present invention requires that the particles be captured between a plurality of projections, which are formed on one side of the flow pass. Brown therefore fails to anticipate claim 1.

Claims 2-10 depend from and include all the limitations of claim 1. Thus, claims 2-10 are not anticipated by Brown for at least the same reasons.

Claim 24 recites, inter alia:

capturing said portion of said particles between a plurality of

projections formed on said deflection surface in said deflection region of said flow pass

Thus, claim 24' requires that the particles be captured between the plurality of projections that are formed on the deflection surface of the flow pass. Since Brown teaches that the samples are captured on the patch itself, or between two opposing patches (i.e., patches formed on opposing surfaces of the assembly), Brown does not disclose capturing particles between the projections formed on a deflection surface of the flow pass and cannot anticipate claim 24.

Claims 25-27 depend from and include all the limitations of claim 24. Thus, claims 25-27 are not anticipated by Brown for at least the same reasons.

Accordingly, it is respectfully requested that the rejection of claims 1-10, and 24-27 under 35 U.S.C. § 102(e) as being anticipated by Brown, be reconsidered and withdrawn.

The rejection of claims 1, 3-5, and 13 under 35 U.S.C. § 102(b) as being anticipated by Austin, is respectfully traversed based on the following.

Austin discloses a sorting apparatus having an array of minute obstacles 39 upstanding from floor 28 of receptacle 24. (Col. 9, lines 46-50).

The Office Action indicates that the projection can be regarded as protruding into only a portion of the structure because "another structure (60) separates protruding columns (28) from the top surface of the microchip." (Office Action, page 4). However, the structure 60 cited by the Office Action is in fact a photoresist layer 60 which is used in etching the substrate to form the obstacles 39. The photoresist layer 60 is dissolved from the substrate once the obstacles 39 have been formed, and is not present in the final structure. (Col. 12, lines 7-50).

In fact, Austin discloses that coverslip 36 is secured to the top of obstacles 39 so as to preclude migration of microstructures between the obstacles 39 and coverslip 36. (Col. 9, lines 56-58). Austin further discloses fusing the coverslip 36 to the substrate 22, wherein the coverslip 36 is positioned over the array 38 of obstacles 39 such that coverslip 36 is in contact with each of obstacles 39. An electric field is then applied to create a bond between coverslip 36 and each of obstacles 39 at all areas of contact. (Col. 12, les 52-62). Thus, because the coverslip is in contact with the obstacles, it cannot be said that the obstacles protrude into only a portion of a cross section of the device.

Claim 1 discloses, inter alia:

a particle capture unit, including a plurality of projections, disposed on a deflection side of said flow pass for capturing at least a portion of said particles between said plurality of projections

...
wherein said particle capture unit protrudes into only a portion of a cross section of said flow pass.

Thus, claim 1 requires that the particle capture unit protrudes into only a portion of a cross section of the flow pass. Austin discloses that the coverslip is in contact with the obstacles, which necessarily means that the obstacles protrude into the entire cross section of the device. Austin therefore fails to anticipate claim 1.

Claims 3-5 and 13 depend from and include all the limitations of claim 1. Thus, claims 3-8 and 13 are not anticipated by Brown for at least the same reasons.

Accordingly, it is respectfully requested that the rejection of claims 1, 3-5, and 13 under 35 U.S.C. § 102(b) as being anticipated by Austin, be reconsidered and withdrawn.

35 U.S.C. § 103(a) Rejection

The rejection of claims 11-13, 28, and 29 under 35 U.S.C. § 103(a), as being unpatentable over Brown in view of Austin and Fodor, is respectfully traversed based on the following.

Claims 11-13 depend from and contains all the limitations of claim 1. Neither Brown nor Austin discloses all the elements of claim 1. Specifically, neither Brown nor Austin discloses “a particle capture unit, including a plurality of projections, disposed on a deflection side of said flow pass for capturing at least a portion of said particles between said plurality of projections ... wherein said particle capture unit protrudes into only a portion of a cross section of said flow pass.”

Fodor is cited for its disclosure of a micropump. However, Fodor does not rectify the deficiencies of Brown and Austin, in that Fodor also does not disclose a plurality of projections for capturing particles therebetween, wherein the projections only protrude into a portion of a flow pass. Thus, claims 11-13 are novel and non-obvious over Brown, Austin and Fodor, individually or in any combination.

Claims 28 and 29 depend from and contains all the limitations of claim 24. Brown does not disclose all the elements of claim 24. Specifically, Brown does not disclose “capturing said portion of said particles between a plurality of projections formed on said deflection surface ..., said plurality of projections protruding into only a portion of a cross section of said flow pass.” Neither Austin nor Fodor rectify the deficiencies of Brown in that neither Austin nor Fodor discloses capturing particles between a plurality of projections, wherein the projections protrude into only a portion of a cross section of the flow pass. Thus, claims 28-29 are novel and non-obvious over Brown, Austin and Fodor, individually or in any combination.

Accordingly, it is respectfully requested that the rejection of claims 11-13, 28, and 29 under 35 U.S.C. § 103(a) as being unpatentable over Brown in view of Austin and Fodor, be reconsidered and withdrawn.

Application No.: 10/010,665
Amendment dated April 13, 2004
Reply to Office Action of January 13, 2004

CONCLUSION

Wherefore, in view of the foregoing amendments and remarks, this application is considered to be in condition for allowance, and an early reconsideration and a Notice of Allowance are earnestly solicited.

This Amendment does not increase the number of independent claims, does not increase the total number of claims, and does not present any multiple dependency claims. Accordingly, no fee based on the number or type of claims is currently due. However, if a fee, other than the issue fee, is due, please charge this fee to Sidley Austin Brown & Wood LLP's Deposit Account No. 18-1260.

Any fee required by this document other than the issue fee, and not submitted herewith should be charged to Sidley Austin Brown & Wood LLP's Deposit Account No. 18-1260. Any refund should be credited to the same account.


If an extension of time is required to enable this document to be timely filed and there is no separate Petition for Extension of Time filed herewith, this document is to be construed as also constituting a Petition for Extension of Time Under 37 C.F.R. § 1.136(a) for a period of time sufficient to enable this document to be timely filed.

Any other fee required for such Petition for Extension of Time and any other fee required by this document pursuant to 37 C.F.R. §§ 1.16 and 1.17, other than the issue fee,

Application No.: 10/010,665
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Respectfully submitted,

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